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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,176	04/01/2004	Scott Patrick Campbell	M4065.0825/P825-A	7369
24998 7590 04/24/2009 DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403				
EXAMINER				
HANNETT, JAMES M				
ART UNIT		PAPER NUMBER		
2622				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/814,176

**Applicant(s)**

CAMPBELL, SCOTT PATRICK

**Examiner**

JAMES M. HANNETT

**Art Unit**

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 April 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-68 is/are pending in the application.  
4a) Of the above claim(s) 36-51 and 57-68 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 19, 20, 23, 25, 27, 29, 30, 32-35 and 52 is/are rejected.  
7) ☒ Claim(s) 21, 22, 24, 26, 28, 31 and 53-56 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 4/1/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claim 52 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 3/13/2009 have been fully considered but they are not persuasive. In regards to Claim 19, the examiner views the new limitation broadly and does not view the limitation as limiting "the conductive in pixel circuit element layer is formed over said optical mask layer".

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1: Claims 19, 20, 23, 25, 27, 29, 30 and 32-35 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,274,917 B1 Fan et al.

2: As for Claim 19, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 A device, comprising: a substrate of a semiconductor material (34); an array of sensing pixels fabricated over said substrate (34), each sensing pixel being responsive to input radiation to produce a pixel output representative of received radiation by said sensing pixel, wherein said sensing pixels are formed of multiple pixel

layers (35-50); and at least one (light shield 44) of the multiple pixel layers (35-50) comprises an electrically conductive in-pixel circuit element. An optical mask layer (47-49) formed over said substrate (34) in an optical path of the input radiation, said optical mask layer (47-49) having a plurality of optical elements (47-49) to modify a property of the input radiation (modifies spectrum and angle of incidence) prior to detection by said sensing pixels (37 is sensing part of pixel), and wherein said at least one (50) of said multiple pixel layers (50-41) comprising an electrically conductive in pixel circuit element is formed over said optical mask layer (47-49). The examiner views the above limitation broadly and does not view the limitation as limiting "the conductive in pixel circuit element layer is formed over said optical mask layer".

3: In regards to Claim 20, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein said optical mask layer (47-49) is formed over at least one layer (46) of said multiple pixel layers (34-50).

4: As for Claim 23, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element (47-49) focuses (47) the input radiation to a corresponding sensing pixel (37) underneath said each optical element (47-49).

5: In regards to Claim 25, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element (47-49) selectively separates one color (filters R,G,B light) in the input radiation from another different color in the input radiation.

6: As for Claim 27, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element (47-49) spatially covers only one sensing pixel.

7: In regards to Claim 29, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each sensing pixel (37 + layers directly above) is an active pixel (CMOS sensor) (See Abstract) which has in-pixel circuit elements to convert radiation-induced charge into a current or voltage.

8: As for Claim 30, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element (47-49) spatially covers only one sensing pixel.

9: In regards to Claim 32, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element (47-49) both focuses (47) a beam and spectrally filters (49) the same beam.

10: As for Claim 33, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element is optically absorptive. Furthermore, the examiner asserts that it is inherent that the optical element will exhibit some optical absorption properties.

11: In regards to Claim 34, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element is optically reflective. Fan et al teaches for the color filters allowing a specific color to pass and reflecting the other colors.

12: As for Claim 35, Fan et al depicts in Figures [6 and 9] and teaches on Column 6, Lines 15-51 wherein each optical element is optically refractive or diffractive. The examiner asserts that it is inherent that the optical elements will have a refractive index and therefore, be optically refractive.

**13:** Claim 52 is rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,727,521 B2 Merrill.

14: In regards to Claim 52, Merrill teaches on Column 6, Lines 30-67 and Column 7, Lines 1-30 and depicts in Figure 3 an imager comprising: a plurality of pixel cells configured to convert incident light into an electrical signal, each pixel cell comprising a plurality of pixel layers (60 to 74); and an optical layer (66) between two of said plurality of pixel layers (70 and 64), the two pixel layers (70 and 64) each containing an electrically conductive in-pixel circuit element (readout lines that output charge), wherein said optical layer (66 is an optical layer because it allows light to pass to red pixel layer 64) is configured to modify the incident light (it is inherent that a modification will occur from light passing through layer (66) since Layer 66 inherently has different optical properties than free space) prior to conversion by the pixel cells.

***Allowable Subject Matter***

**15:** Claims 21, 22, 24, 26, 28, 31 and 53-56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hannett whose telephone number is 571-272-7309. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/James M. Hannett/  
Primary Examiner  
Art Unit 2622

JMH  
April 23, 2009